

# **Notice of Allowability**

**Application No.**

10/005,049

**Examiner**

Qutub Ghulamali

**Applicant(s)**

LINSKY ET AL.

**Art Unit**

2611

## **-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/20/2006.
2. ☒ The allowed claim(s) is/are 1-32.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## **Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                       |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|   | 9. <input type="checkbox"/> Other _____.  |

### **DETAILED ACTION**

1. This Office Action is in response to the amendment/remarks filed 04/20/2006.
2. Applicant's amendment to the specification with reference to sections 0060, 0061 and 0062 (pages 2-3), is hereby acknowledged. The amendment is considered acceptable.

### ***Response to Remarks/Amendment***

3. Applicant's Remarks/Amendment filed April 20, 2006, with reference to rejection of claims 10-17, 28, 29 have been fully considered and as a result claims 10-17, 28, 29, 30-32, are now indicated allowable. However, in order to advance the prosecution in the case an examiners amendment was considered necessary to correct for some deficiencies in the claims. The examiners amendment follows.

### **EXAMINER'S AMENDMENT**

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Christopher P. Harris on 07/12/2006.

5. The application has been amended as follows:

**IN THE CLAIMS:**

The claims 10 and 30, have been amended as follows:

Claim 10, line 5, after "phase/frequency error estimate," -- and a second block decoder which receives the phase/frequency estimate as an input, -- has been inserted.

Claim 10, lines 10, after "excess processing power" -- based on a likelihood of phase estimation failure based on the output of the second block decoder of each of said plurality of phase locked loops, -- has been inserted.

Claim 30, line 3, after "a unique combination of" -- initial -- has been inserted and the second "initial" has been deleted.

The claim 33 has been cancelled without prejudice.

***Reasons for Allowance***

6. Applicant's amendment/remarks filed April 20, 2006 (see pages 10-13) with respect to the rejection of claims 10-17, 28, 29, and the newly added claims 30-32, have been fully considered. The rejection of claims 10-17, 28, 29 and 30-32 has been withdrawn.

7. Claims 1-32 allowed.

8. The following is an examiner's statement of reasons for allowance:

The prior art of reference in combination with other claim limitations neither teaches nor renders obvious a decision directed phase locked loop circuit comprising:

Art Unit: 2611

a phase detector which receives an input sequence of baseband complex samples in a burst data communication system and current phase estimates and generates phase differences between said baseband complex samples and current phase estimates; an inner block decoder which decodes said baseband complex samples to generate decoded data; a phase error generation circuit which receives said baseband complex samples and said decoded data from said inner block decoder and which generates feedback phase error terms based on said baseband complex samples and said decoded data, wherein said inner block decoder and phase error generation circuit are adapted to selectively apply excess processing power to a burst in said burst data communication system; a selection circuit which identifies a burst to be demodulated with excess processing power, said selection circuit providing said identified burst to said inner block decoder and said phase error generation circuit so as to selectively apply excess processing power in order to re-process said burst; an outer block decoder which receives the associated codewords generated by said inner block decoder and which utilizes and corrects only codewords associated with baseband complex samples after the group of baseband complex samples consisting of the first baseband complex samples received by said phase detector; a loop filter which filters said phase error terms; and a phase accumulator that updates the current phase estimate on each iteration of the phase locked loop.

Such limitations as recited in independent claim 1, is neither anticipated nor rendered obvious by the prior art of reference.

Art Unit: 2611

The claims 10 and 18 is allowable over the prior art of record since the cited reference taken individually or in combination fails to particularly disclose a set of associated codewords and a phase/frequency error estimate and a second block decoder which receives the phase/frequency estimate as an input and excess processing power based on a likelihood of phase estimation failure based on the output of the second block decoder of each of said plurality of phase locked loops.

It is noted that the closest art to Caso (USP 6,236,687) teaches a similar decision directed phase locked loop demodulator for demodulating an input modulated signal, however, Caso fails to particularly teach or suggest a second block decoder which receives the phase/frequency estimate as an input and excess processing power based on a likelihood of phase estimation failure based on the output of the second block decoder of each of said plurality of phase locked loops.

Claims 2-9, 11-17, 19-32 are allowed by virtue of their dependency to base claims highlighted above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### **Contact Information**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

US Pub. 2003/0031275 to Min et al.

US Patent 5,170,425 to Yoshida et al.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.  
August 18, 2006.

  
MOHAMMED GHAYOUR  
SUPERVISORY PATENT EXAMINER